PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 5525	**FOR FURTHER ACTION**	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416).
International Application No. **PCT/IB03/00026**	International Filing Date *(day/month/year)* 9 January 2003	Priority Date *(day/month/year)* 15 January 2002
International Patent Classification (IPC) or national classification and IPC **Int. Cl.** [7] G06F 11/16, 11/02		
Applicant WESSELS, Jacobus Adriaan et al		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 3 sheets, including this cover sheet.

   [X] This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

   These annexes consist of a total of **5** sheet(s).

3. This report contains indications relating to the following items:

   - I [X] Basis of the report
   - II [ ] Priority
   - III [ ] Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
   - IV [ ] Lack of unity of invention
   - V [X] Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
   - VI [ ] Certain documents cited
   - VII [ ] Certain defects in the international application
   - VIII [ ] Certain observations on the international application

Date of submission of the demand 9 July 2003	Date of completion of the report 19 December 2003
Name and mailing address of the IPEA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaustralia.gov.au Facsimile No. (02) 6285 3929	Authorized Officer **LARS KOCH** Telephone No. (02) 6283 2551

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/IB03/00026

I. Basis of the report

1. With regard to the **elements** of the international application:*

- [ ] the international application as originally filed.
- [X] the description, pages **1-13** , as originally filed,
  pages , filed with the demand,
  pages , received on with the letter of
- [X] the claims, pages , as originally filed,
  pages , as amended (together with any statement) under Article 19,
  pages , filed with the demand,
  pages **14-18** , received on **1 December 2003** with the letter of **1 December 2003**
- [X] the drawings, pages **1/7-3/7** , as originally filed,
  pages , filed with the demand,
  pages **4/7-7/7**, received on **23 January 2003** with the letter of **17 January 2003**
- [ ] the sequence listing part of the description:
  pages , as originally filed
  pages , filed with the demand
  pages , received on with the letter of

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.
These elements were available or furnished to this Authority in the following language which is:

- [ ] the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- [ ] the language of publication of the international application (under Rule 48.3(b)).
- [ ] the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- [ ] contained in the international application in written form.
- [ ] filed together with the international application in computer readable form.
- [ ] furnished subsequently to this Authority in written form.
- [ ] furnished subsequently to this Authority in computer readable form.
- [ ] The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- [ ] The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

4. [ ] The amendments have resulted in the cancellation of:
   - [ ] the description, pages
   - [ ] the claims, Nos.
   - [ ] the drawings, sheets/fig.

5. [ ] This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* *Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).*

** *Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report*

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-16	YES
	Claims		NO
Inventive step (IS)	Claims	1-16	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-16	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

Novelty and Inventive Step

The invention as presently claimed relates to a valve unit including features such as a first passage having an inlet opening and outlet opening, a moveable member, a second passage extending through the movable member, with the moveable member being rotatable within the first passage to align the two passages. Also included is a control member moveably adapted to regulate the filling of the second passage and further regulate the exhaustion of flowable substances from a second passage outlet opening while simultaneously regulating the intake of a second volume of flowable substance through the inlet opening into the second passage

The independent claims further define features, which are not disclosed in any of the citations raised in the International Search Report. For example claim 1 defines an alignment means associated with the moveable member wherein the alignment means includes a ratchet formation allowing unidirectional rotation of the moveable member. Claim 2 includes the feature of preventing a cap from being attached if the passages are in alignment.

No individual citation, or obvious combination of citations, disclose all of the essential features of the invention as claimed, and therefore the claimed invention is considered both novel and inventive.

CLAIMS

1. A valve unit including a body; a movable member movably associated with the body; a first passage extending through the body; a second passage extending through the movable member, the movable member being adapted to align the second passage with the first passage; and a control member movably located inside the second passage, the control member being adapted to regulate the filling of and the exhausting of a flowable substance from the second passage through the first passage.

2. A valve unit as claimed in claim 1, in which the movable member is located in a recess in the body.

3. A valve unit as claimed in claim 2, in which the recess is a bore.

4. A valve unit as claimed in claim 2 or claim 3, in which the recess is located centrally within the body.

5. A valve unit as claimed in any one of claims 2 to 4, in which the movable member is cylindrical having a diameter substantially similar to the diameter of the recess.

6. A valve unit as claimed in any one claims 2 to 5, in which the first passage extends through the body traversing the recess along its diameter.

7. A valve unit as claimed in any one claims 2 to 6, in which the movable member is a spigot rotatably located in the recess.

8. A valve unit as claimed in any one of the preceding claims, in which the movable member is provided with a gripping member extending beyond the body for rotation of the movable member.

9. A valve unit as claimed in any one of the preceding claims, in which the body is cylindrical.

10. A valve unit as claimed in any one of the preceding claims, in which the second passage extends through the movable member having openings on opposite sides of a diameter of the movable member.

11. A valve unit as claimed in any one of the preceding claims, in which the second passage has a slightly larger diameter than the first passage.

12. A valve unit as claimed in any one of the preceding claims, in which the control member is adapted to block off the first passage when moved into contact with the body.

13. A valve unit as claimed in any one of the preceding claims, in which the control member is a spherical ball.

14. A valve unit as claimed in any one of the preceding claims, in which the control member has a diameter substantially similar to a diameter of the second passage.

15. A valve unit as claimed in any one of the preceding claims, in which the control member has a diameter larger than a diameter of the first passage.

16. A valve unit as claimed in any one of the preceding claims, which includes attachment means for attaching the body to a supply of a flowable substance, such as a tube of paste.

17. A valve unit as claimed in claim 16, in which the attachment means is a screw-on or clip-on connection.

18. A valve unit as claimed in any one of the preceding claims, which includes alignment means adapted to align the first and second passages so that they are continuous with each other.

19. A valve unit as claimed in claim 18, in which the alignment means includes a groove provided in the body and being adapted to accept a pin extending from the movable member, or *vice versa*.

20. A valve unit as claimed in claim 19, in which the groove describes a substantially arcuate path parallel to a diameter of the bore.

21. A valve unit as claimed in claim 19 or claim 20, in which the groove extends through substantially 180°.

22. A valve unit as claimed in any one of claims 1 to 18, in which the alignment means includes a ratchet formation allowing unidirectional rotation of the movable member.

23. A valve unit as claimed in any one of the preceding claims, which includes a cap adapted to be removably attached to the body.

24. A valve unit as claimed in claim 23, in which the cap has a lip adapted to prevent attachment of the cap if the first and second passages are in alignment.

25. A valve unit as claimed in claim 23 or claim 24, in which the cap has a lip adapted to prevent movement of the movable member when the cap is attached to the body.

26. A valve unit as claimed in any one of the preceding claims, which includes a one-way valve associated with the first passage being adapted to reduce retraction of the flowable substance into a container during use.

27. A valve unit as claimed in any one of the preceding claims, in which the second passage may have flexible side walls.

28. A valve unit as claimed in claim 27, in which the second passage is adapted to be partially closed by a blocking member to restrict movement of the control member.

29. A valve unit as claimed in any one of the preceding claims, in which the movable member includes a bypass passage in which no control member is provided and being adapted to allow unrestricted and unmeasured volume of the flowable substance to pass through the first passage.

30. A valve unit as claimed in any one of the preceding claims, which includes a self-closing mechanism being adapted to cause the first and second passages to be unaligned when not in use.

31. A valve unit as claimed in claim 30, in which the self-closing mechanism is a spring loaded cam.

32. A valve unit as claimed in any one of the preceding claims, which includes a counter for indicating a total number of dosages dispensed through the first passage.

33. A valve unit including a dispenser having a dispenser inlet and a dispenser outlet; a metering chamber, having a predetermined volume and two chamber openings, being movably located inside the dispenser in a manner allowing at least one of the chamber openings to be moved between a first position where it is in alignment with the dispenser inlet and a second position where it is alignment with the dispenser outlet; and a control member movably located inside the metering chamber between the chamber openings and being adapted to selectively close off the dispenser outlet.

34. A valve unit substantially as hereinbefore described with reference to and as illustrated in the accompanying schematic Figures 1 to 10.

35. A method of dispensing a flowable substance includes the steps of expressing a first volume of the substance into a metering chamber; and of exhausting the first volume of substance from the metering chamber while simultaneously expressing a further volume of the substance into the metering chamber.

36. A method as claimed in claim 35, in which a control member is movably located in the metering chamber for separating the first volume from the further volume of substance.

37. A method as claimed in claim 35 or claim 36, in which the further volume of substance forcibly acts against the control member to move it within the metering chamber and thereby causing the control member to exhaust the first volume of substance out of the metering chamber.

38. A valve unit substantially as hereinbefore described with reference to and as illustrated in the accompanying schematic Figures 11 to 14.

39. A valve unit substantially as hereinbefore described with reference to and as illustrated in the accompanying schematic Figure 15.

40. A valve unit substantially as hereinbefore described with reference to and as illustrated in the accompanying schematic Figures 16 to 18.

41. A method of dispensing a flowable substance substantially as hereinbefore described with reference to and as illustrated in the accompanying schematic Figures 7 to 10.